

Assistant Professor

Department of Biology

Texas A&M University

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Education

- 2013 **PhD in Molecular Neuroscience**, Department of Physiology and Pharmacology, Tel Aviv University, Israel.
- 2005 **MSc in Medical Sciences**, *Magna cum laude*. Department of Physiology and Pharmacology, Tel Aviv University, Israel.
- 2001 **BSc in Life Sciences, Sociology, and Anthropology**
Hebrew University of Jerusalem, Israel.

Positions and Scientific Appointments

- 2003-2005 Master's Research Assistant, Tel Aviv University, Tel Aviv, Israel; Advisor: Yosef Sarne
- 2006-2012 Graduate Research Assistant, Tel Aviv University, Tel Aviv, Israel; Advisor: Nathan Dascal
- 2007 Instructor in a practical workshop on molecular neurobiology, Tel Aviv University, Tel Aviv, Israel
- 2007-2011 Teaching Assistant, Department of Physiology and Pharmacology, Tel Aviv University, Tel Aviv, Israel
- 2009, 2011 Instructor in a practical workshop on ion channel research methodology, Tel Aviv University, Tel Aviv, Israel
- 2013-2020 Postdoctoral Research Associate, Salk Institute for Biological Studies, La Jolla, CA; Advisor: Nicola Allen
- 2020-Present Assistant Professor, Department of Biology, Texas A&M University, College Station, TX

Other Experience and Professional Services

- 2006 Member, Israeli Society for Neuroscience
- 2010-Present Member, Society for Neuroscience
- 2012-Present Associate Faculty Member, F1000
- 2020 Panel co-chair and speaker, Biophysical Society Annual Meeting, San Diego, CA
- 2020-Present Faculty member, Texas A&M Institute for Neuroscience (TAMIN)
- 2021-Present Member, American Society for Neurochemistry
- 2021 Ad-Hoc reviewer, Texas A&M X-Grant Program
- 2022 Symposium chair and speaker, American Society for Neurochemistry Annual Meeting, Roanoke, VA
- 2022 Minisymposium chair and speaker, Society for Neuroscience Annual Meeting, San Diego, CA
- 2022 Ad-Hoc reviewer, French National Research Agency (ANR)
- 2022 Ad-Hoc reviewer, Graduate Women in Science (GWIS) National Fellowship Program
- 2022 Editorial board member, Scientific Reports Journal, Springer
- 2023-Present Affiliate member, Texas A&M Center for Biological Clocks Research

Honors and Awards

- 2015-2016 Catharina Foundation Postdoctoral Fellowship Award
- 2017 ILANIT/FISEB Meeting Postdoctoral Travel Award
- 2018-2020 Salk Women & Science Special Award
- 2022 Texas A&M College of Science Travel Assistance Award

Publications

Farhy-Tselnicker I, Boisvert MM, Liu H, Dowling C, Erikson GA, Blanco-Suarez E, Farhy C, Shokhirev M, Ecker JR, Allen NJ. Activity-Dependent Modulation of Synapse-Regulating Genes in Astrocytes. *eLife*. 2021;10:e70514. DOI: 10.7554/eLife.70514.

Farhy-Tselnicker I and Allen NJ. Astrocytes, neurons, synapses: a tripartite view on cortical circuit development. *Neural Dev*. 2018 May 1;13(1):7. Review. PMID: 29712572

Farhy-Tselnicker I, van Casteren ACM, Lee A, Chang VT, Aricescu AR, Allen NJ. Astrocyte-Secreted Glypican 4 Regulates Release of Neuronal Pentraxin 1 from Axons to Induce Functional Synapse Formation. *Neuron*. 2017 Oct 11;96(2):428-445.e13. PMID: 29024665.

- Highlighted article of the *Neuron* issue 96(2).
- Highlighted in: Hines PJ. Astrocytes Regulate Synaptogenesis. *Science*. 2017 Nov 10; 358(6364): 759-760.
- Overiewed in: Condomitti G, de Wit J. Astrocytes Supply Presynaptic Terminals with a Sweet Incentive to Make Connections. *Dev Cell*. 2017 Nov 6; 43(3):261-263. PMID: 29112849.

Yakubovich D, Berlin S, Kahanovitch U, Rubinstein M, **Farhy-Tselnicker I**, Styr B, Keren-Raifman T, Dessauer CW, Dascal N. A Quantitative Model of the GIRK1/2 Channel Reveals That Its Basal and Evoked Activities Are Controlled by Unequal Stoichiometry of G α and G $\beta\gamma$. *PLoS Comput Biol*. 2015 Nov 6;11(11). PMID: 26544551.

Farhy-Tselnicker I, Boisvert MM, Allen NJ. The role of neuronal versus astrocyte-derived heparan sulfate proteoglycans in brain development and injury. *Biochem Soc Trans*. 2014 Oct 1;42(5):1263-9. Review. PMID: 25233401.

Farhy-Tselnicker I, Tsemakhovich V, Rishal I, Kahanovitch U, Dessauer CW, Dascal N. Dual regulation of G proteins and the G-protein-activated K⁺ channels by lithium. *Proc Natl Acad Sci USA*. 2014 Apr 1;111(13):5018-23. PMID: 24639496.

Tselnicker I and Dascal N. Further characterization of regulation of Cav2.2 by stargazin. *Channels (Austin)*. 2010 Sep-Oct; 4(5):351-4. Addendum. PMID: 21139418.

Tselnicker I, Tsemakhovich VA, Dessauer CW, Dascal N. Stargazin modulates neuronal voltage-dependent Ca²⁺ channel Cav2.2 by a G $\beta\gamma$ -dependent mechanism. *J Biol Chem*. 2010 Apr 30; 285:20462-20471. PMID: 20435886.

Tselnicker I, Keren O, Hefetz A, Pick CG, Sarne Y. A single low dose of tetrahydrocannabinol induces long-term cognitive deficits. *Neurosci Lett*. 2007 Jan 10; 411(2):108-11. PMID: 17092651.

Research support

Current:

R01NS133047 (NINDS)

Farhy-Tselnicker (PI)

09/01/23 – 08/31/28

Regulation of Synaptic Rhythmicity by Astrocytic Clock

Texas A&M University College of Arts and Science merger seed grant

Farhy-Tselnicker (PI); Shoshana Eitan (co-PI)

07/01/22 - 06/31/23

Curbing Neuroinflammation and Associated Glia Dysfunction with Selective AhR Modulators (SAhRMs) as Promising Treatment for Depression.

R21NS121945 (NINDS)

Irtisha Singh (PI); role: collaborator

01/01/2022 – 12/31/2023

Investigating Pathophysiology of Glioma Stem Cells in 3D Bioprinted Vascularized Glioblastoma Model

Completed:

T3 Texas A&M Triads for Transformation, Texas A&M University seed grant

Irtisha Singh (PI); role: co-PI

01/01/2021 – 12/31/2022

3D Glioblastoma Model to Investigate Pathophysiology of Glioma Stem Cells

Texas A&M University College of Science Undergraduate Research Opportunities Program

Farhy-Tselnicker (PI)

01/06/2022 – 08/31/2022

Dissecting the role of the GSK3 β in astrocyte-mediated synapse formation

Teaching

Undergraduate courses – Biology 213 Molecular Cell Biology (2021, 2022); Biology 413 Cell Biology (2023)

Graduate courses – Biology 613 Cell biology (2022-current)

Research – Biology 491; 691 (2020-current)

Invited/selected talks (last 5 years)

2023

- Seminar at the Center for Neuroregeneration seminar series at Houston Methodist Research Institute (HMRI), Houston, TX
- Seminar at the Texas A&M Institute for Neuroscience (TAMIN), Texas A&M University, College Station, TX
- Selected for a talk at the EMBO workshop on neuronal remodeling meeting, Kibutz Nahsholim, Israel
- Seminar at Philadelphia glial biology group (Gliadelphia) (virtual)
- Symposium speaker at the XVI European Meeting on Glial Cells in Health and Disease, Berlin, Germany

2022

- Seminar at the Department of Physiology and Pharmacology, Tel Aviv University, Tel Aviv, Israel
- Seminar at the Department of Neuroscience and Experimental Therapeutics, School of Medicine, Texas A&M University, Bryan, TX.
- Presentation at the American Medical Students Association meeting. Texas A&M University, College Station, TX.

2021

- Seminar at the Department of Biology at University of Mary Hardin-Baylor (UMHB), Belton, TX.
- Presentation at the American Medical Students Association meeting. Texas A&M University, College Station, TX.

2020

- Selected for a talk and to serve on program organizing committee for the Kavli Institutes in Neuroscience Forum at Yale University (postponed due to covid19 pandemic).
- Abstract selected for a talk at Cold spring harbor glia in health and disease meeting. Virtual.
- Selected as Platform co-chair and speaker at the Biophysical Society annual meeting, San Diego, CA USA.

Selected conference presentations (last 5 years)**2023**

- **Gray M**, Albrecht GL, Partida A, Imrie G, **Farhy-Tselnicker I**. TAMU Biology Student/Postdoc Research Conference. Title: "Regulation of astrocyte-mediated synapse formation by GSK3 β ". (poster)
- **Gray M**, Albrecht GL, Partida A, Imrie G, Ramirez R, **Farhy-Tselnicker I**. TAMU Student Research Week. Title: "GSK3 β as a molecular switch in astrocyte-mediated synaptogenesis". (talk)

2022

- **Imrie G**, Albrecht GL, Ramirez R, Darden Z, **Farhy-Tselnicker I**. TAMIN research symposium. Title: Investigating the Role of Astrocyte Store-released Calcium Signaling in Synapse Development
- **Gray M**, Albrecht GL, Partida A, Imrie G, Roberts J, **Farhy-Tselnicker I**. SFN at TAMIN symposium. Title: "GSK3 β as Mediator of Astrocyte-Regulated Synapse Formation".
- Gray M, Albrecht GL, Partida A, Imrie G, Roberts J, **Farhy-Tselnicker I**. Society for Neuroscience annual meeting. Title: "GSK3 β as Mediator of Astrocyte-Regulated Synapse Formation".
- **Farhy-Tselnicker I**, Boisvert MM, Liu H, Dowling C, Erikson GA, Blanco-Suarez E, Farhy C, Shokhirev M, Ecker JR, Allen NJ. Cold spring harbor glia in health and disease meeting. Title: "Activity-dependent modulation of synapse-regulating genes in astrocytes".

2021

- **Farhy-Tselnicker I**, Boisvert MM, Liu H, Dowling C, Erikson GA, Blanco-Suarez E, Farhy C, Shokhirev M, Ecker JR, Allen NJ. Society for Neuroscience annual meeting. Title: "Activity-dependent modulation of synapse-regulating genes in astrocytes".
- **Farhy-Tselnicker I**, Boisvert MM, Liu H, Dowling C, Erikson GA, Blanco-Suarez E, Farhy C, Shokhirev M, Ecker JR, Allen NJ. The European Meeting on Glial Cells in Health and Disease. Title: "Astrocyte expression of synapse-regulating genes is developmentally controlled by neuronal and astrocyte activity".

2020

- **Farhy-Tselnicker I**, Dowling C, Allen NJ. CZI Neurodegeneration Challenge Network 2020 Annual Meeting. Virtual. Title: "Astrocyte expression of synapse promoting genes is developmentally regulated by neuronal and astrocyte activity". (Won 3rd place poster competition award)

2019

- **Farhy-Tselnicker I**, Dowling C, Allen NJ. Society for Neuroscience annual meeting, Chicago, USA. Title: "Astrocyte expression of synapse promoting genes is developmentally regulated by neuronal and astrocyte activity"
- **Farhy-Tselnicker I**, Dowling C, Allen NJ. Gordon Research Conference - Neurotrophic Mechanisms in Health and Disease, Salve Regina University, USA. Title: "Astrocyte expression of synapse promoting genes is developmentally regulated by neuronal and astrocyte activity"

2018

- **Farhy-Tselnicker I**, Dowling C, Allen NJ. Society for Neuroscience annual meeting, San Diego, USA. Title: “Developmental analysis of astrocytes and astrocyte-derived synapse promoting genes in the mouse visual cortex in vivo”.
- **Farhy-Tselnicker I**, Dowling C, Allen NJ. 2018 Conference on Glial Biology in Medicine, Roanoke, USA. Title: “Developmental analysis of astrocytes and astrocyte-derived synapse promoting genes in the mouse visual cortex in vivo”.
- **Farhy-Tselnicker I**, Dowling C, Allen NJ. Cold spring harbor glia in health and disease meeting, Cold spring harbor, USA. Title: “Developmental analysis of astrocytes and astrocyte-derived synapse promoting genes in the mouse visual cortex in vivo”.